Louisville Metro

Multi-Hazards Mitigation Plan

SECTION 1.0 INTRODUCTION

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SUPPORTING INFORMATION

1.0 INTRODUCTION

1.1 Hazard Mitigation Planning: Disaster Mitigation Act of 2000

As a local community, Louisville Metro is required to develop a comprehensive Natural Hazards Mitigation Plan. The Disaster Mitigation Act of 2000 (DMA 2000) provides the legal basis for Federal Emergency Management Agency (FEMA) mitigation planning requirements for State, Local and Indian Tribal governments as a condition of mitigation grant assistance. The legislation reinforces the importance of mitigation planning in emphasizing planning for disasters *before* they occur, thus promoting proactive emergency management planning. As such, DMA 2000 establishes a "pre-disaster hazard mitigation" program and requirements for the post-disaster Hazard Mitigation Grant Program (HMGP).

Mitigation Planning Requirements
44 CFR Part 201

The regulations governing the mitigation planning requirements for local mitigation plans are published under 44 Code of Federal Regulations (CFR) §201.6.

Regulations reflect the need for States, Tribal, and local governments to closely coordinate mitigation planning and implementation efforts, and describes the requirement for local governments as a condition of receiving FEMA hazard mitigation assistance. Under 44 CFR §201.6, local governments must have a FEMA-approved Local Mitigation Plan in order to apply for and/or receive project grants under the hazard mitigation assistance programs.

DMA 2000 is intended to facilitate cooperation between state and local authorities as it encourages and rewards local, tribal, and state pre-disaster planning and promotes sustainability as a strategy for disaster resistance. This enhanced planning network better enables local and state governments to articulate their needs for mitigation, resulting in faster allocation of funding and more effective risk reduction projects. As a result, communities must have an approved mitigation plan in place before receiving HMGP funds.

Hazard mitigation is any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazards. Mitigation activities may be implemented prior to, during, or after an incident. However, it has been demonstrated that hazard mitigation is most effective when based on an inclusive, comprehensive, long-term plan that is developed before a disaster occurs.

1.1.1 Required Mitigation Plan Five-Year Update

DMA 2000 requires local communities to update the Hazard Mitigation Plan on a five-year cycle. If the plan is not updated, there will be limited opportunities for the community to actively work toward achieving the mitigation strategy, goals, and actions or to apply for mitigation grant funding.

Plan updates must demonstrate that progress has been made in the past five years for Local Mitigation Plans to fulfill

Mitigation Plan Five-Year Updates

Updates as required at 44 CFR §201.6(d)(3). The mitigation planning regulation states:

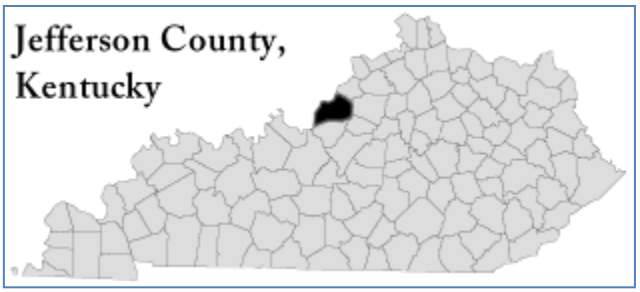
A local jurisdiction must review and revise its plan to reflect changes in development, progress in local mitigation efforts, and changes in priorities, and resubmit it for approval within five (5) years in order to continue to be eligible for mitigation project grant funding.

commitments outlined in the previously approved plan. This involves a comprehensive review and update of each section of the Local Mitigation Plan and a discussion of the results of evaluation and monitoring activities detailed in the Plan Maintenance section of the previously approved plan. Plan updates may validate the information in the previously approved plan, or may involve a major plan rewrite.

1.2 Louisville Metro Multi-Hazards Mitigation Plan

1.2.1 Louisville Metro / Jefferson County Background

Louisville Metro is a 385 square mile river city located along the Ohio River adjacent to the McAlpine Locks and Dam at the Falls of the Ohio. The Ohio River separates Kentucky and Indiana. Formed in 1780, Jefferson County is a well-known geographic area highlighted by rolling hillsides and meandering streams. Approximately 790 miles of streams drain into eleven major stream systems in the Louisville Metro area. See Appendix 1.1 for a regional map of the Louisville Metro area.



In 2000, voters in Louisville and Jefferson County approved a merged city-county government to be known as Louisville/Jefferson County Metro Government, or Louisville Metro for short. On January 6, 2003, Louisville Metro became the largest city in nearly three decades to merge its city and county governments, creating a consolidated local government. See Appendix 1.2 for a map of Louisville Metro Council Districts. For more information on the Metro Council, visit the Council homepage at: http://www.louisvilleky.gov/MetroCouncil/default.htm.

Louisville Metro is the largest and the most densely populated county in the state and the 20th largest city in the United States. Population for Louisville Metro is approximately 721,594 according to 2009 U.S. Census Bureau estimates. Among Louisville Metro's largest employers are United Parcel Service (UPS), Ford Motor Company, General Electric, and YUM! Brands. The Louisville Metro workforce draws from a 24 county bi-state area that consists of sixteen Kentucky counties and eight Southern Indiana counties. Louisville Metro is the home of the University of Louisville and Jefferson Community and Technical College, Bellarmine, Spalding, and Sullivan. Critical facilities are high density in downtown Louisville Metro with a high-employee rate at Humana, Norton Healthcare, and Jewish Hospital & St. Mary's HealthCare.

Due to Louisville Metro's climate, geology, and geographical setting, the area is vulnerable to 12 natural hazards that threaten life and property. Flooding consistently ranks as the number one natural hazard in the Louisville Metro area due to 11 major stream systems and approximately 790 stream miles. The elevation in Louisville Metro ranges from 383 to 902 feet above sea level and estimations show that 15% of the area is in the floodplain.

1.2.2 2005 Louisville Metro Natural Hazards Mitigation Plan

The 2005 Louisville Metro Natural Hazards Mitigation Plan met the requirements of DMA 2000, was approved by the FEMA, and received credit from the Community Rating System (CRS) as a natural hazards mitigation plan. The 2005 Louisville Metro Natural Hazards Mitigation Plan is available to the public on-line at http://www.louisvilleky.gov/EMA/Natural+Hazards+Mitigation+Plan.htm.

1.2.3 Louisville Metro Five-Year Update

The Louisville Metro mitigation planning update effort is a result of the partnership created by the Kentucky Emergency Management Agency (KyEM) and the Louisville Metro Emergency Management Agency (EMA) through a Mitigation Planning Grant.

The 2005 Louisville Metro Natural Hazards Mitigation Plan required a comprehensive plan review to upgrade and update the Plan. Updating the 2005 Plan also was a recommendation of the Plan Maintenance Procedures which describes the method and schedule for updating the plan within the five-year cycle. Plan Maintenance Procedures also require annual progress reports that are Louisville Metro's vehicle for monitoring, implementation, and evaluation of the plan.

The Louisville Metro Multi-Hazards Mitigation Plan, hereafter known as "the Plan" adheres to the guidelines outlined in 44 CFR, Section 201.6. The Plan includes natural hazards where there is a historical record of damage caused to people and property or where the potential for such damage exists. Man-made hazards were added to the Plan which created the multi-hazard approach. As a result, there are 13 hazards, including Hazardous Materials (Haz/Mat).

Louisville Metro Vulnerable to 13 Hazards

- Dam / Levee Failure
- Drought
- Earthquake
- Extreme Heat
- Flooding
- Hailstorms
- Hazardous-Materials
- Karst / Sinkholes
- Landslides
- Thunderstorms / Lightning
- Tornados
- Wildfire
- Winter Storms

The natural hazards categories included in the updated Plan are consistent with the 2007 and 2010 Kentucky State Hazard Mitigation Plans and include:

- Flood-Related Hazards (river and flash flooding, dam failures)
- Wind-Related Hazards (winter and summer storms, tornadoes)
- Fire-Related Hazards (extreme heat, drought, wildfires)
- Geologic Hazards (earthquakes, landslides, karst and sinkholes)

Since the 2005 Plan, three Presidentially Declared Disasters were declared for Louisville Metro and are outlined in the Plan. The declarations included a September 2009 Tropical Depression from Hurricane Ike that caused record-breaking winds; January 2009, for a record ice storm; and August 2009 when up to 7 ½" of rain flooded portions of Louisville Metro in just over a one-hour time span.

1.3 Planning Partners

Under the authority of the Louisville Metro Council, the Louisville Metro EMA is the authorized applicant agent and is primarily responsible for the coordination and development of the local hazard mitigation plan. Louisville Metro has a long-history of embracing FEMA's hazard mitigation programs, including, Project Impact, the CRS program and all of the various grant programs. The Plan update will again be coordinated through the same three agencies as the 2005 Plan: the Louisville Metro EMA, the Louisville Jefferson County Metropolitan Sewer District (MSD), and the Louisville and Jefferson County Information Consortium (LOJIC). EMA, MSD, and LOJIC continue to support their commitment to the mitigation plan through normal operations, quarterly meetings, and facilitating an advisory committee.

MSD administers the Floodplain Management Ordinance, National Flood Insurance Program (NFIP), CRS program, and portions of the Hazardous-Materials Ordinance.

LOJIC is a GIS consortium of local public and government agencies that has garnered national attention for innovative programs. LOJIC's vision is to be the premier provider of geospatial data and application services throughout the region in a self-sustained, cost-effective and highly customer-focused manner. LOJIC's mission is to provide easy and open access to all forms of geospatial information about Louisville Metro to all who may need it.

The partners developed a scope of work that includes objectives, methodology, feasibility, outcomes, timeline, milestones, resources, deliverables, and benefits for the planning activity. The scope of work is outlined in the planning process and follows planning requirements and guidance from the DMA 2000 and the CRS program.

Planning Partner's Websites

EMA:	http://www.louisvilleky.gov/EMA/
LOJIC:	http://www.lojic.org/
MSD:	http://www.msdlouky.org/

1.4 Plan Outline

The updated Plan uses the same planning process as the 2005 Plan and stakeholders are again at the center of the process. This Plan was developed using broad based and diverse community participation activities, and contains the following five sections, plus appendices and references:

1.0 Introduction
2.0 Planning Process
3.0 Risk Assessments
4.0 Mitigation Strategy
5.0 Plan Maintenance Procedures

Mitigation Planning Requirements
44 CFR Part 201

Text boxes in this color and shape are used throughout the Plan to summarize the regulations in 44 CFR Part 201.

Exact CFR references applicable to each section help the reader understand the rule and/or planning requirements.

See a list of Acronyms and a Glossary of Terms in the front of the Appendices.

A brief description follows for the five sections of the Plan.

1.0 Introduction

Section 1 describes the Disaster Mitigation Act of 2000 and federal requirements for a local mitigation plan and a five-year update. Louisville Metro's background and hazard vulnerabilities are briefly described. The section explains the coordinated planning effort through three key agencies as partners who supported the 2005 planning effort and are again at the lead for the planning process.

2.0 Planning Process

Section 2 provides a description of the planning process and the planning guidelines for the CRS program and the DMA 2000 requirements. Also detailed are the roles for the Plan Development Team (Project Staff and an Advisory Committee). The section also describes the documentation requirements, timeline, how the Advisory Committee participated, public outreach, and how the public was kept apprised of the plan's development. The section also outlines Louisville Metro's existing plans, studies, and reports and details the prerequisite for local adoption of the Plan and the submission process to KyEM, FEMA, and local government.

3.0 Risk Assessments

Section 3 provides an overview of Louisville's climate, geology, topography, watersheds, and endangered species. The hazard identification section identifies the 13 hazards likely to affect the Louisville Metro area and outlines historical record of damage and disaster declarations.

This section profiles the hazards by providing background information on U.S. and Kentucky impacts, local damage history, and provides a risk factor table and hazard risk gauge that summarizes the overall risk. The profiles provide a description on the potential impacts and the probability and magnitude for each identified hazard. The profiles also focus on severity and resulting affects on transportation, safety, and economics.

Maps are used whenever possible to convey where the spatial data and at-risk areas are located. Maps provide an invaluable GIS visual tool for analysis and are a key component for communication with the Advisory Committee, Metro Council, and at public meetings.

FEMA's plan review tool, the Crosswalk, specifically outlined deficiencies in the 2005 Plan and the updated Risk Assessment provided an opportunity to update the Plan to address the deficiencies. As a result, the risk assessment provides an analysis for Louisville Metro's vulnerabilities, including identifying assets, estimating potential losses, establishing current landuses, and analyzing population and development trends.

4.0 Mitigation Strategy

Section 4 outlines the design of the Mitigation Strategy developed through a tier of meetings and coordination with the Advisory Committee. The mitigation strategy is based upon the best available data and provides a blueprint for reducing the potential losses identified in the risk assessments which are the factual basis for the mitigation strategy.

The section reviews the problems and common issues in Louisville Metro and details how the Advisory Committee revised the community's goals and objectives by utilizing a multi-hazard approach. The Louisville Metro's Capability Assessment outlines state and local ordinances, statues and regulations, and reviews funding mechanisms. Ongoing programs are outlined in the section which assisted the Advisory Committee to develop a five-year Action Plan.

The section also explains the methods utilized to categorize projects into six mitigation strategies, and how projects were ranked and prioritized. The five-year Action Plan outlines mitigation projects that can be integrated into job descriptions, comprehensive plans, capital improvement plans, zoning and building codes, and other planning tools. The section describes the Action Plan, an implementation timeline, and the funding sources to implement each of the mitigation projects. Also detailed are how the mitigation measures are cost effective, environmentally sound, technically feasible, and shovel-ready to submit for various grant funding programs.

5.0 Plan Maintenance Procedures

The Plan Maintenance section is forward-thinking and emphasizes future community involvement. The Plan Maintenance section describes how Louisville Metro will keep the public and the Advisory Committee involved over the next five years and how plan the maintenance process worked to-date. The section also describes how the Plan will be evaluated after a disaster, or after unexpected changes in landuse or demographics in or near hazard areas.